

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A separator-electrode unit comprising a porous electrode ~~useful as an electrode in a lithium battery~~ and a separator layer applied to ~~this said~~ porous electrode, characterized in that wherein the separator-electrode unit comprises an inorganic separator layer which comprises at least two fractions of metal oxide particles which differ from each other in their average particle size and/or in the metal, the separator layer comprising metal oxide particles having an average particle size (D_g) which is greater than the average pore size (d) of the pores of the porous electrode that are adhered together by metal oxide particles having a particle size (D_k) which is smaller than the pores of the porous positive electrode.

Claim 2 (Currently Amended): A separator-electrode unit according to claim 1, characterized in that wherein the separator layer has a thickness (z) which is less than $100 D_g$ and not less than $1.5 D_g$.

Claim 3 (Currently Amended): A separator-electrode unit according to ~~either of~~ claims ~~1 and 2~~, characterized in that claim 1, wherein the separator layer has a thickness (z) which is less than $20 D_g$ and not less than $5 D_g$.

Claim 4 (Currently Amended): A separator-electrode unit according to ~~at least one of~~ claims ~~1 to 3~~, characterized in that claim 1, wherein the metal oxide particles having an average particle size (D_g) which is greater than the average pore size (d) of the pores of the porous positive electrode are Al_2O_3 and/or ZrO_2 particles.

Claim 5 (Currently Amended): A separator-electrode unit according to ~~at least one of claims 1 to 4, characterized in that~~ claim 1, wherein the metal oxide particles having an average particle size (D_k) which is smaller than the average pore size (d) of the pores of the porous positive electrode are SiO_2 and/or ZrO_2 particles.

Claim 6 (Currently Amended): A separator-electrode unit according to ~~at least one of claims 1 to 5, characterized in that~~ claim 1, wherein the metal oxide particles having an average particle size (D_g) which is greater than the average pore size (d) of the pores of the porous positive electrode have an average particle size (D_g) of less than $10 \mu\text{m}$.

Claim 7 (Currently Amended): A separator-electrode unit according to ~~at least one of claims 1 to 6, characterized in that~~ claim 1, wherein the separator layer comprises a ~~further~~ coating with shutdown particles which melt at a desired shutdown temperature.

Claim 8 (Currently Amended): A separator-electrode unit according to claim 7, ~~characterized in that~~ wherein the shutdown particles have an average particle size (D_w) which is not less than the average pore size (d_s) of the pores of the porous separator layer.

Claim 9 (Currently Amended): A separator-electrode unit according to ~~either of claims 7 and 8, characterized in that~~ claim 7, wherein the shutdown particle layer has a thickness (z_w) which ranges from about equal to the average particle size of the shutdown particles (D_w) up to $10 D_w$.

Claim 10 (Currently Amended): A separator-electrode unit according to ~~at least one of claims 1 to 9, characterized in that claim 1, wherein~~ the separator layer has a porosity of from 30 to 70%.

Claim 11 (Currently Amended): A separator-electrode unit according to ~~at least one of claims 1 to 10, characterized in that claim 1, wherein~~ the unit is bendable down to a radius of 50 cm without damage.

Claim 12 (Currently Amended): A separator-electrode unit according to ~~at least one of claims 1 to 10, characterized in that claim 1, wherein~~ the electrode is an electrode which is ~~useful~~ capable of functioning as a positive electrode (cathode) or as a negative electrode (anode).

Claim 13 (Currently Amended): A process for producing a separator-electrode unit according to ~~at least one of claims 1 to 12, characterized in that it comprises claim 1, said process comprising~~ forming a porous inorganic coating separator layer on a porous electrode substrate ~~useful~~ capable of functioning as a positive (cathode) or negative (anode) electrode in a lithium battery by applying a suspension which comprises metal oxide particles in a sol and solidifying the inorganic separator layer on the electrode by at least one thermal treatment, the suspension comprising metal oxide particles having an average particle size (D_g) which is greater than the average pore size (d) of the pores of the porous positive electrode.

Claim 14 (Currently Amended): A process according to claim 13, ~~characterized in that, as the case may be, wherein~~ the metal oxide particles or the metal oxide particles having

an average particle size (D_g) which is greater than the average pore size (d) of the pores of the porous positive electrode are Al_2O_3 and/or ZrO_2 particles.

Claim 15 (Currently Amended): A process according to ~~either of claims 13 and 14~~, characterized in that claim 13, wherein the particles used as metal oxide particles have an average particle size of less than $3 \mu\text{m}$.

Claim 16 (Currently Amended): A process according to ~~any one of claims 13 to 15~~, characterized in that claim 13, wherein the suspension is applied to the substrate by printing on, pressing on, pressing in, rolling on, knifecoating on, brushing on, dipping, spraying or pouring on.

Claim 17 (Currently Amended): A process according to ~~at least one of claims 13 to 16~~, characterized in that claim 13, wherein the suspension used has a weight ratio of metal oxide particles to sol in the range from 1:1 000 to 2:1.

Claim 18 (Currently Amended): A process according to ~~at least one of claims 13 to 17~~, characterized in that claim 13, wherein the suspension comprises at least one sol of the elements Al, Zr or Si or a mixture of these said sols and is produced by suspending the metal oxide particles in at least one of these said sols.

Claim 19 (Currently Amended): A process according to claim 18, characterized in that wherein the sols are particulate sols.

Claim 20 (Currently Amended): A process according to claim 18, ~~characterized in that wherein~~ the sols are polymeric sols.

Claim 21 (Currently Amended): A process according to ~~any one of claims 18 to 20~~, ~~characterized in that claim 18, wherein~~ the sols are obtained by hydrolyzing at least one alkoxide compound of the elements Al, Zr or Si with water or an acid or a combination of ~~these said~~ compounds.

Claim 22 (Currently Amended): A process according to ~~at least one of claims 13 to 21, characterized in that claim 13, wherein~~ the suspension ~~has further comprises~~ pyrogenic silica ~~added to~~ it to adjust the viscosity of the suspension.

Claim 23 (Currently Amended): A process according to claim 22, ~~characterized in that wherein~~ the silica mass fraction of the suspension is in the range from 0.1 to 10% by weight.

Claim 24 (Currently Amended): A process according to ~~at least one of claims 13 to 23, characterized in that claim 13, wherein~~ the suspension applied to the electrode is solidified by heating to 50-500°C.

Claim 25 (Currently Amended): A process according to claim 24, ~~characterized in that wherein~~ the heating is effected at a temperature of from 200 to 280°C for from 0.5 to 10 minutes.

Claim 26 (Currently Amended): A process according to ~~at least one of claims 13 to 25, characterized in that claim 13, wherein~~ the solidifying of the suspension applied to the electrode is followed by the application to the separator-electrode unit of a layer of shutdown particles which melt at a desired shutdown temperature to create a shutdown mechanism.

Claim 27 (Currently Amended): A process according to claim 26, ~~characterized in that wherein~~ the layer of shutdown particles is formed by applying a suspension of shutdown particles having an average particle size which is greater than the average pore size of the separator layer in a sol, water, solvent or solvent mixture.

Claim 28 (Currently Amended): A process according to claim 27, ~~characterized in that wherein~~ the suspension of shutdown particles further comprises an adhesion promoter.

Claim 29 (Canceled).

Claim 30 (Currently Amended): A battery comprising [[a]] said separator-electrode unit according to ~~at least one of claims 1 to 12~~ claim 1.

Claim 31 (New): A method for making a lithium battery, said method comprising: incorporating said separator-electrode unit according to claim 1 in a battery comprising lithium to obtain said lithium battery.